/ Absolute Maximum Ratings(T_a=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Drain Current - Continuous		I_D	32	A
Drain Current – Pulsed		I_{DM}	128	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		P_D(T_c=25)	26	W
Single Pulse Avalanche Energy(L=0.5mH)		E_{AS}	274	mJ
Avalanche Current(L=0.5mH)		I_{AS}	28	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Thermal resistance, junction - ambient	t ≤ 10s	$R_{\theta JA}$	25	/ W
	Steady-State		55	
Thermal resistance, junction - case	Steady-State	$R_{\theta JC}$	4.8	

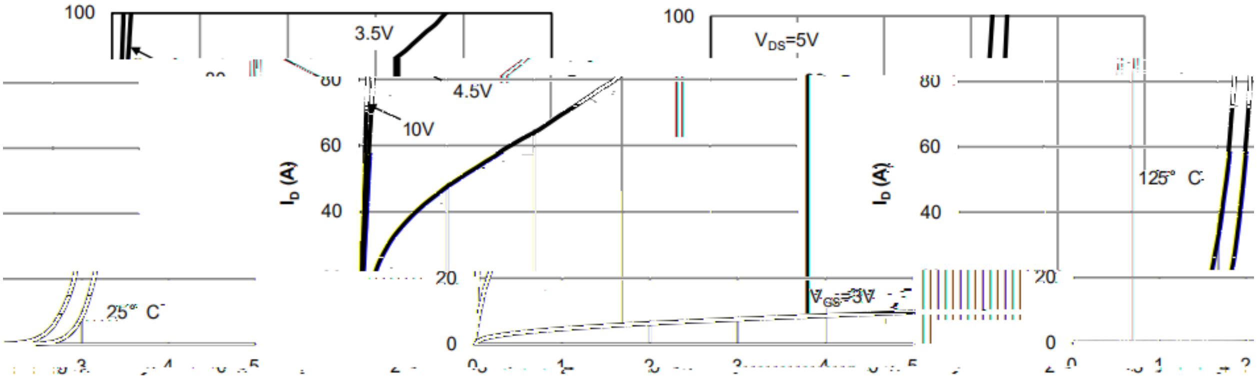
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	30	33		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1.0	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1	1.5	3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A		3.7	4.5	mΩ
		V_{GS}=4.5V, I_D=10A		5.1	6	
Diode Forward Voltage	V_{SD}	I_S=1A, V_{GS}=0V			1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		2500		pF
Output Capacitance	C_{oss}			280		
Reverse Transfer Capacitance	C_{rss}			210		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		3.3		Ω
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V, V_{DS}=15V, I_D=20A		30		nC
Total Gate Charge	$Q_{g(4.5V)}$			13.5		
Gate Source Charge	Q_{gs}			5.5		
Gate Drain Charge	Q_{gd}			3.5		

/ Electrical Characteristics(Ta=25)

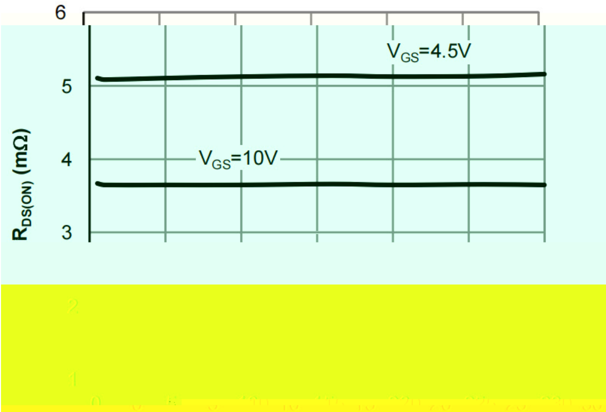
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=15V R_L=0.75Ω R_{GEN}=3Ω		8		ns
Turn-On Rise Time	t_r			3		
Turn-Off Delay Time	$t_{d(off)}$			34		
Turn-Off Fall Time	t_f			5.5		

/ Electrical Characteristic Curve



V_{GS} (Volts)
Figure 2: Transfer Characteristics

V_{DS} (Volts)
Figure 1: On-Region Characteristics



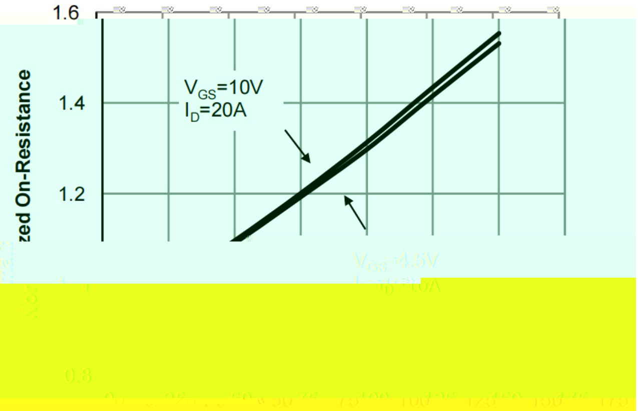
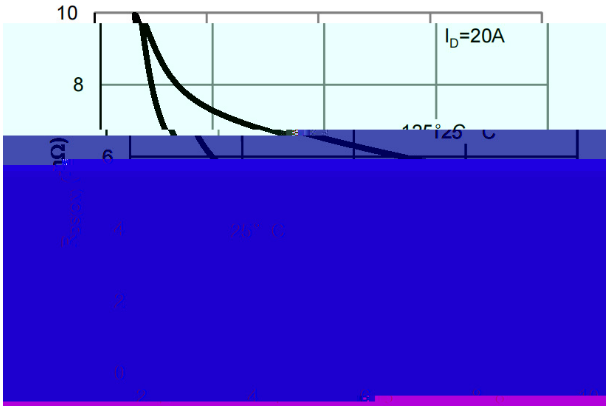


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature



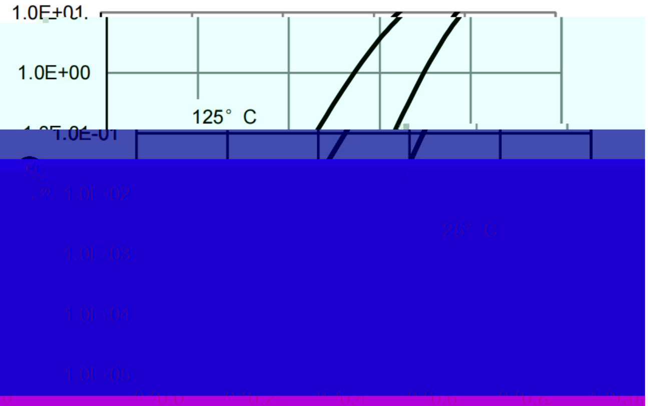


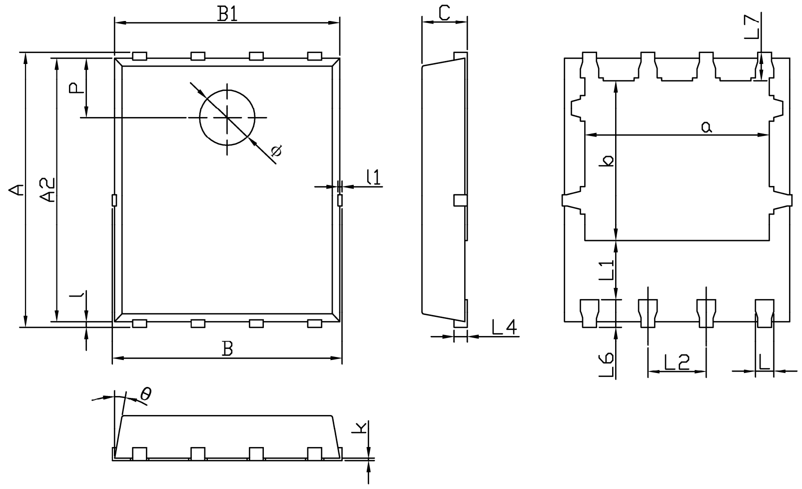
Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

/ Package Dimensions

PDFN5X6

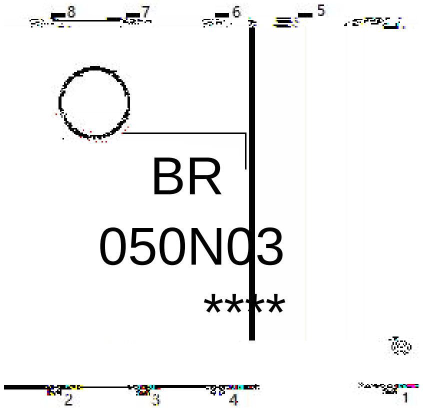
Unit:mm



Symbol	Dimensions In Millimeters		
	MIN	TYP	MAX
A	5.90	6.00	6.10
a	3.91	4.01	4.11
A2	5.70	5.75	5.80
B	4.90	5.00	5.10
b	3.375	3.475	3.575
B1	4.80	4.90	5.00
C	0.90	0.95	1.00
L	0.30	0.40	0.50
l	0.06	0.13	0.20
L1	1.10	–	–
l1	–	–	0.10
L2	1.17	1.27	1.37
L4	0.21	0.26	0.34
L6	0.51	0.61	0.71
L7	0.51	0.61	0.71
P	1.15	1.30	1.45
k	0.00	–	0.05
θ	8°	10°	12°
Φ	1.10	1.20	1.30

Rev.02 202510

/ Marking Instructions



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050N03

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Note

BR	Company Code
050N03	Product Type Code
****:	Lot No. Code, code change with Lot No.